Long term forecasting of wind speed for wind energy application

Titre	Long term forecasting of wind speed for wind energy application
Type de publication	Communication
Type	Communication avec actes dans un congrès
Année	2019
Langue	Anglais
Date du colloque	05-08/12/2018
Titre du colloque	2018 6th International Renewable and Sustainable Energy Conference (IRSEC)
Titre des actes ou de la revue	2018 6th International Renewable and Sustainable Energy Conference (IRSEC)
Pagination	506-512
Auteur	Aghbalou, Nihad [1], Charki, Abderafi [2], Rahali El Azzouzi, Saida [3], Reklaoui, Kamal [4]
Pays	Maroc
Editeur	International Renewable and Sustainable Energy Conference, IRSEC 2018
Ville	Rabat
ISBN	978-172811182-7
Mots-clés	Component [5], Long term wind speed [6], Time series forecasting [7], Weibull distribution [8], Wind energy assessment [9]
Résumé en anglais	A novel method for long term forecasting of wind speed distribution is proposed based on the concept of training neural network. A phase space reconstruction method is used to track the evolution of the wind speed distribution function parameters in a dynamic system. Then, the neural network training and forecasting features are used to learn nonlinear model between historical data and next observation. Moreover, different estimators have been applied and compared to fit the annual distribution of the wind speed in the studied sites before applying the proposed approach. The proposed method shows a good performance and could be successfully applied in wind energy yield.
URL de la notice	http://okina.univ-angers.fr/publications/ua20368 [10]
DOI	10.1109/IRSEC.2018.8702892 [11]
Lien vers le document en ligne	https://ieeexplore.ieee.org/document/8702892 [12]

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